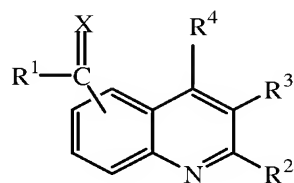


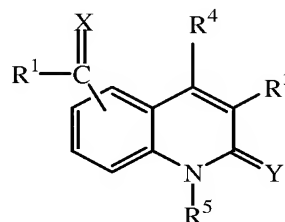
This listing of claims will replace all prior versions, and listings, of claims in the application.

### Listing of Claims:

1. (Currently Amended) A radiolabelled compound according to Formula (I-A)\* or (I-B)\*



(I-A)\*



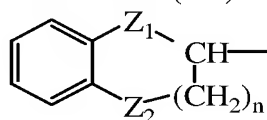
(I-B)\*

an *N*-oxide form, a pharmaceutically acceptable addition salt, a quaternary amine and a stereochemically isomeric form thereof, wherein

X represents O; C(R<sup>6</sup>)<sub>2</sub> with R<sup>6</sup> being hydrogen, aryl or C<sub>1-6</sub>alkyl optionally substituted with amino or mono- or di(C<sub>1-6</sub>alkyl)amino; S or N-R<sup>7</sup> with R<sup>7</sup> being amino or hydroxy;

R<sup>1</sup> represents C<sub>1-6</sub>alkyl; aryl; thienyl; quinoliny; cycloC<sub>3-12</sub>alkyl or (cycloC<sub>3-12</sub>alkyl)C<sub>1-6</sub>alkyl, wherein the cycloC<sub>3-12</sub>alkyl moiety optionally may contain a double bond and wherein one carbon atom in the cycloC<sub>3-12</sub>alkyl moiety may be replaced by an oxygen atom or an NR<sup>8</sup>-moiety with R<sup>8</sup> being hydrogen, benzyl or C<sub>1-6</sub>alkyloxycarbonyl; wherein one or more hydrogen atoms in a C<sub>1-6</sub>alkyl-moiety or in a cycloC<sub>3-12</sub>alkyl-moiety optionally may be replaced by C<sub>1-6</sub>alkyl, hydroxyC<sub>1-6</sub>alkyl, haloC<sub>1-6</sub>alkyl, aminoC<sub>1-6</sub>alkyl, hydroxy, C<sub>1-6</sub>alkyloxy, arylC<sub>1-6</sub>alkyloxy, halo, C<sub>1-6</sub>alkyloxycarbonyl, aryl, amino, mono- or di(C<sub>1-6</sub>alkyl)amino, C<sub>1-6</sub>alkyloxycarbonylamino, halo, piperazinyl, pyridinyl, morpholinyl, thienyl or a bivalent radical of formula -O-, -O-CH<sub>2</sub>-O or -O-CH<sub>2</sub>-CH<sub>2</sub>-O-;

or a radical of formula (a-1)



a-1

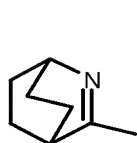
wherein Z<sub>1</sub> is a single covalent bond, O, NH or CH<sub>2</sub>;

Z<sub>2</sub> is a single covalent bond, O, NH or CH<sub>2</sub>;

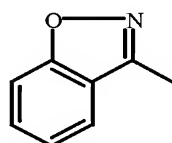
n is an integer of 0, 1, 2 or 3;

and wherein each hydrogen atom in the phenyl ring independently may optionally be replaced by halo, hydroxy, C<sub>1-6</sub>alkyl, C<sub>1-6</sub>alkyloxy or hydroxyc<sub>1-6</sub>alkyl;

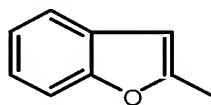
or X and R<sup>1</sup> may be taken together with the carbon atom to which X and R<sup>1</sup> are attached to form a radical of formula (b-1), (b-2) or (b-3);



b-1



b-2



b-3

R<sup>2</sup> represents hydrogen; halo; cyano; C<sub>1-6</sub>alkyl; C<sub>1-6</sub>alkyloxy; C<sub>1-6</sub>alkylthio; C<sub>1-6</sub>alkylcarbonyl; C<sub>1-6</sub>alkyloxycarbonyl; C<sub>1-6</sub>alkylcarbonyloxyC<sub>1-6</sub>alkyl; C<sub>2-6</sub>alkenyl; hydroxyc<sub>2-6</sub>alkenyl; C<sub>2-6</sub>alkynyl; hydroxyc<sub>2-6</sub>alkynyl; tri(C<sub>1-6</sub>alkyl)silaneC<sub>2-6</sub>alkynyl; amino; mono- or di(C<sub>1-6</sub>alkyl)amino; mono- or di(C<sub>1-6</sub>alkyloxyC<sub>1-6</sub>alkyl)amino; mono- or di(C<sub>1-6</sub>alkylthioC<sub>1-6</sub>alkyl)amino; aryl; arylC<sub>1-6</sub>alkyl; arylC<sub>2-6</sub>alkynyl; C<sub>1-6</sub>alkyloxyC<sub>1-6</sub>alkylaminoC<sub>1-6</sub>alkyl; aminocarbonyl optionally substituted with C<sub>1-6</sub>alkyl, C<sub>1-6</sub>alkyloxyC<sub>1-6</sub>alkyl, C<sub>1-6</sub>alkyloxycarbonylC<sub>1-6</sub>alkyl or pyridinylC<sub>1-6</sub>alkyl; a heterocycle selected from thienyl, furanyl, pyrrolyl, thiazolyl, oxazolyl, imidazolyl, isothiazolyl, isoxazolyl, pyrazolyl, pyridyl, pyrazinyl, pyridazinyl, pyrimidinyl, piperidinyl and piperazinyl, optionally N-substituted with C<sub>1-6</sub>alkyloxyC<sub>1-6</sub>alkyl, morpholinyl, thiomorpholinyl, dioxanyl or dithianyl ; a radical -NH-C(=O)R<sup>9</sup> wherein R<sup>9</sup> represents

C<sub>1-6</sub>alkyl optionally substituted with cycloC<sub>3-12</sub>alkyl, C<sub>1-6</sub>alkyloxy, C<sub>1-6</sub>alkyloxycarbonyl, aryl, aryloxy, thienyl, pyridinyl, mono- or di(C<sub>1-6</sub>alkyl)amino, C<sub>1-6</sub>alkylthio, benzylthio, pyridinylthio or pyrimidinylthio; cycloC<sub>3-12</sub>alkyl; cyclohexenyl; amino; arylcycloC<sub>3-12</sub>alkylamino; mono-or-di(C<sub>1-6</sub>alkyl)amino; mono- or di(C<sub>1-6</sub>alkyloxycarbonylC<sub>1-6</sub>alkyl)amino; mono- or di(C<sub>1-6</sub>alkyloxycarbonyl)amino; mono-or di(C<sub>2-6</sub>alkenyl)amino; mono- or di(arylC<sub>1-6</sub>alkyl)amino; mono- or diarylamino; arylC<sub>2-6</sub>alkenyl; furanylC<sub>2-6</sub>alkenyl; piperidinyl; piperazinyl; indolyl; furyl; benzofuryl;

tetrahydrofuryl; indenyl; adamantyl; pyridinyl; pyrazinyl; aryl;  
arylC<sub>1-6</sub>alkylthio or a radical of formula (a-1) ;

a sulfonamid -NH-SO<sub>2</sub>-R<sup>10</sup> wherein R<sup>10</sup> represents C<sub>1-6</sub>alkyl, mono- or poly  
haloC<sub>1-6</sub>alkyl, arylC<sub>1-6</sub>alkyl, arylC<sub>2-6</sub>alkenyl, aryl, quinolinyl, isoxazolyl or  
di(C<sub>1-6</sub>alkyl)amino;

R<sup>3</sup> and R<sup>4</sup> each independently represent hydrogen; halo; hydroxy; cyano; C<sub>1-6</sub>alkyl;  
C<sub>1-6</sub>alkyloxy; C<sub>1-6</sub>alkyloxyC<sub>1-6</sub>alkyl; C<sub>1-6</sub>alkylcarbonyl; C<sub>1-6</sub>alkyloxy carbonyl;  
C<sub>2-6</sub>alkenyl; hydroxyC<sub>2-6</sub>alkenyl; C<sub>2-6</sub>alkynyl; hydroxyC<sub>2-6</sub>alkynyl;  
tri(C<sub>1-6</sub>alkyl)silaneC<sub>2-6</sub>alkynyl; amino; mono- or di(C<sub>1-6</sub>alkyl)amino; mono- or di(C<sub>1-6</sub>  
alkyloxyC<sub>1-6</sub>alkyl)amino; mono- or di(C<sub>1-6</sub>alkylthioC<sub>1-6</sub>alkyl)amino; aryl;  
morpholinylC<sub>1-6</sub>alkyl or piperidinylC<sub>1-6</sub>alkyl ; or

R<sup>2</sup> and R<sup>3</sup> may be taken together to form -R<sup>2</sup>-R<sup>3</sup>-, which represents a bivalent radical of  
formula -(CH<sub>2</sub>)<sub>3</sub>-, -(CH<sub>2</sub>)<sub>4</sub>-, -(CH<sub>2</sub>)<sub>5</sub>-, -(CH<sub>2</sub>)<sub>6</sub>-, -CH=CH-CH=CH-,  
-Z<sub>4</sub>-CH=CH-, -CH=CH-Z<sub>4</sub>-, -Z<sub>4</sub>-CH<sub>2</sub>-CH<sub>2</sub>-CH<sub>2</sub>-, -CH<sub>2</sub>-Z<sub>4</sub>-CH<sub>2</sub>-CH<sub>2</sub>-,  
-CH<sub>2</sub>-CH<sub>2</sub>-Z<sub>4</sub>-CH<sub>2</sub>-,  
-CH<sub>2</sub>-CH<sub>2</sub>-CH<sub>2</sub>-Z<sub>4</sub>-, -Z<sub>4</sub>-CH<sub>2</sub>-CH<sub>2</sub>-, -CH<sub>2</sub>-Z<sub>4</sub>-CH<sub>2</sub>- or -CH<sub>2</sub>-CH<sub>2</sub>-Z<sub>4</sub>-, with Z<sub>4</sub> being O, S,  
SO<sub>2</sub> or NR<sup>11</sup> wherein R<sup>11</sup> is hydrogen, C<sub>1-6</sub>alkyl, benzyl or C<sub>1-6</sub>alkyloxy carbonyl; and  
wherein each bivalent radical is optionally substituted with C<sub>1-6</sub>alkyl.

or R<sup>3</sup> and R<sup>4</sup> may be taken together to form a bivalent radical of formula -CH=CH-CH=CH-  
or -CH<sub>2</sub>-CH<sub>2</sub>-CH<sub>2</sub>-CH<sub>2</sub>- ;

R<sup>5</sup> represents hydrogen; cycloC<sub>3-12</sub>alkyl; piperidinyl; oxo-thienyl; tetrahydrothienyl,  
arylC<sub>1-6</sub>alkyl; C<sub>1-6</sub>alkyloxyC<sub>1-6</sub>alkyl; C<sub>1-6</sub>alkyloxy carbonylC<sub>1-6</sub>alkyl or C<sub>1-6</sub>alkyl  
optionally substituted with a radical C(=O)NR<sub>x</sub>R<sub>y</sub>, in which R<sub>x</sub> and R<sub>y</sub>, each  
independently are hydrogen, cycloC<sub>3-12</sub>alkyl, C<sub>2-6</sub>alkynyl or C<sub>1-6</sub>alkyl optionally  
substituted with cyano, C<sub>1-6</sub>alkyloxy, C<sub>1-6</sub>alkyloxy carbonyl, furanyl, pyrrolidinyl,  
benzylthio, pyridinyl, pyrrolyl or thienyl;

Y represents O or S;

or Y and R<sup>5</sup> may be taken together to form =Y-R<sup>5</sup>- which represents a radical of formula

-CH=N-N= (c-1);  
-N=N-N= (c-2); or  
-N-CH=CH- (c-3);

aryl represents phenyl or naphthyl optionally substituted with one or more substituents  
selected from halo, hydroxy, C<sub>1-6</sub>alkyl, C<sub>1-6</sub>alkyloxy, phenyloxy, nitro, amino, thio, C<sub>1-6</sub>  
alkylthio, haloC<sub>1-6</sub>alkyl, polyhaloC<sub>1-6</sub>alkyl, polyhaloC<sub>1-6</sub>alkyloxy,

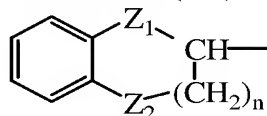
hydroxyC<sub>1-6</sub>alkyl, C<sub>1-6</sub>alkyloxyC<sub>1-6</sub>alkyl, aminoC<sub>1-6</sub>alkyl, mono-or di(C<sub>1-6</sub>alkyl)amino; mono-or di(C<sub>1-6</sub>alkyl)aminoC<sub>1-6</sub>alkyl, cyano, -CO-R<sup>12</sup>, -CO-OR<sup>13</sup>, -NR<sup>13</sup>SO<sub>2</sub>R<sup>12</sup>, -SO<sub>2</sub>-NR<sup>13</sup>R<sup>14</sup>, -NR<sup>13</sup>C(O)R<sup>12</sup>, -C(O)NR<sup>13</sup>R<sup>14</sup>, -SOR<sup>12</sup>, -SO<sub>2</sub>R<sup>12</sup>; wherein each R<sup>12</sup>, R<sup>13</sup> and R<sup>14</sup> independently represent C<sub>1-6</sub>alkyl; cycloC<sub>3-6</sub>alkyl; phenyl; phenyl substituted with halo, hydroxy, C<sub>1-6</sub>alkyl, C<sub>1-6</sub>alkyloxy, haloC<sub>1-6</sub>alkyl, polyhaloC<sub>1-6</sub>alkyl, furanyl, thienyl, pyrrolyl, imidazolyl, thiazolyl or oxazolyl;

and when the R<sup>1</sup>-C(=X) moiety is linked to another position than the 7 or 8 position, then said 7 and 8 position may be substituted with R<sup>15</sup> and R<sup>16</sup> wherein either one or both of R<sup>15</sup> and R<sup>16</sup> represents C<sub>1-6</sub>alkyl, C<sub>1-6</sub>alkyloxy or R<sup>15</sup> and R<sup>16</sup> taken together may form a bivalent radical of formula -CH=CH-CH=CH-; wherein the radiolabelled compound has at least one halo which is a radioactive isotope of iodine, bromine, or fluorine, at least one <sup>11</sup>C atom, or at least one tritium atom.

2. (Currently Amended) [[A]] The radiolabelled compound according to claim 1, wherein X represents O; C(R<sup>6</sup>)<sub>2</sub> with R<sup>6</sup> being hydrogen or aryl; or N-R<sup>7</sup> with R<sup>7</sup> being amino or hydroxy;

R<sup>1</sup> represents C<sub>1-6</sub>alkyl, aryl; thienyl; quinoliny; cycloC<sub>3-12</sub>alkyl or (cycloC<sub>3-12</sub>alkyl)C<sub>1-6</sub>alkyl, wherein the cycloC<sub>3-12</sub>alkyl moiety optionally may contain a double bond and wherein one carbon atom in the cycloC<sub>3-12</sub>alkyl moiety may be replaced by an oxygen atom or an NR<sup>8</sup>-moiety with R<sup>8</sup> being benzyl or C<sub>1-6</sub>alkyloxycarbonyl; wherein one or more hydrogen atoms in a C<sub>1-6</sub>alkyl-moiety or in a cycloC<sub>3-12</sub>alkyl-moiety optionally may be replaced by C<sub>1-6</sub>alkyl, haloC<sub>1-6</sub>alkyl, hydroxy, C<sub>1-6</sub>alkyloxy, arylC<sub>1-6</sub>alkyloxy, halo, aryl, mono- or di(C<sub>1-6</sub>alkyl)amino, C<sub>1-6</sub>alkyloxycarbonylamino, halo, piperaziny, pyridiny, morpholiny, thienyl or a bivalent radical of formula -O- or -O-CH<sub>2</sub>-CH<sub>2</sub>-O-;

or a radical of formula (a-1)



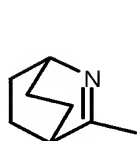
a-1

wherein Z<sub>1</sub> is a single covalent bond, O or CH<sub>2</sub>;

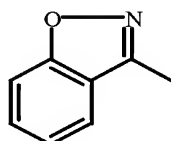
Z<sub>2</sub> is a single covalent bond, O or CH<sub>2</sub>;

n is an integer of 0, 1, or 2 ;

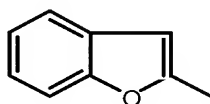
and wherein each hydrogen atom in the phenyl ring independently may optionally be replaced by halo or hydroxy;  
or X and R<sup>1</sup> may be taken together with the carbon atom to which X and R<sup>1</sup> are attached to form a radical of formula (b-1), (b-2) or (b-3);



b-1



b-2



b-3

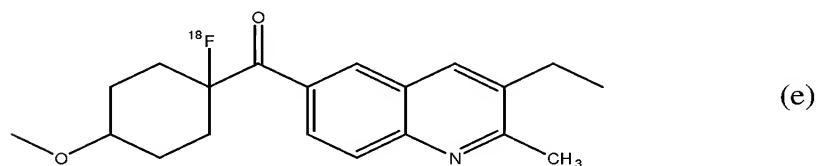
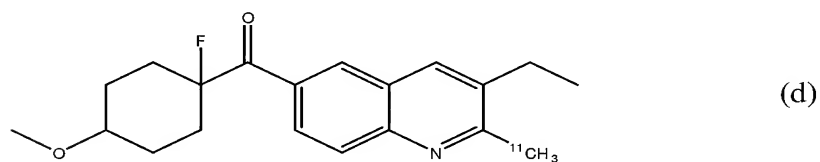
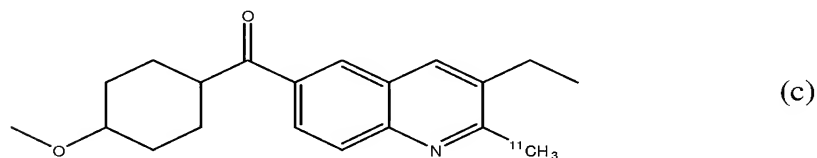
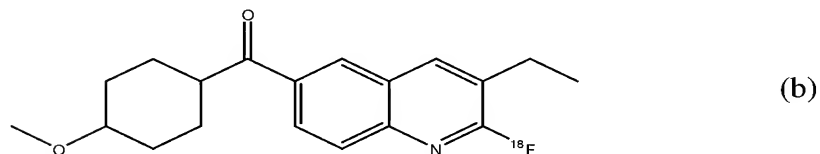
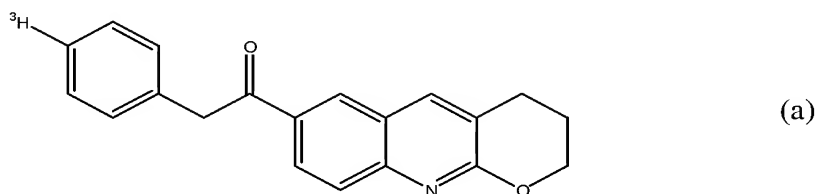
R<sup>2</sup> represents hydrogen; halo; cyano; C<sub>1-6</sub>alkyl; C<sub>1-6</sub>alkyloxy; C<sub>1-6</sub>alkylthio; C<sub>1-6</sub>alkylcarbonyl; C<sub>1-6</sub>alkyloxycarbonyl; C<sub>2-6</sub>alkenyl; hydroxyC<sub>2-6</sub>alkenyl; C<sub>2-6</sub>alkynyl; hydroxyC<sub>2-6</sub>alkynyl; tri(C<sub>1-6</sub>alkyl)silaneC<sub>2-6</sub>alkynyl; amino; mono- or di(C<sub>1-6</sub>alkyl)amino; mono- or di(C<sub>1-6</sub>alkyloxyC<sub>1-6</sub>alkyl)amino; mono- or di(C<sub>1-6</sub>alkylthioC<sub>1-6</sub>alkyl)amino; aryl; arylC<sub>1-6</sub>alkyl; arylC<sub>2-6</sub>alkynyl; C<sub>1-6</sub>alkyloxyC<sub>1-6</sub>alkylaminoC<sub>1-6</sub>alkyl; aminocarbonyl optionally substituted with C<sub>1-6</sub>alkyloxycarbonylC<sub>1-6</sub>alkyl; a heterocycle selected from thienyl, furanyl, thiazolyl and piperidiny, optionally N-substituted with morpholinyl or thiomorpholinyl; a radical -NH-C(=O)R<sup>9</sup> wherein R<sup>9</sup> represents C<sub>1-6</sub>alkyl optionally substituted with cycloC<sub>3-12</sub>alkyl, C<sub>1-6</sub>alkyloxy, C<sub>1-6</sub>alkyloxycarbonyl, aryl, aryloxy, thienyl, pyridinyl, mono- or di(C<sub>1-6</sub>alkyl)amino, C<sub>1-6</sub>alkylthio, benzylthio, pyridinylthio or pyrimidinylthio; cycloC<sub>3-12</sub>alkyl; cyclohexenyl; amino; arylcycloC<sub>3-12</sub>alkylamino; mono-or-di(C<sub>1-6</sub>alkyl)amino; mono- or di(C<sub>1-6</sub>alkyloxycarbonylC<sub>1-6</sub>alkyl)amino; mono- or di(C<sub>1-6</sub>alkyloxycarbonyl)amino; mono-or di(C<sub>2-6</sub>alkenyl)amino; mono- or di(arylC<sub>1-6</sub>alkyl)amino; mono- or diarylamino; arylC<sub>2-6</sub>alkenyl; furanylC<sub>2-6</sub>alkenyl; piperididiny; piperazinyl; indolyl; furyl; benzofuryl; tetrahydrofuryl; indenyl; adamantyl; pyridinyl; pyrazinyl; aryl or a radical of formula (a-1); a sulfonamid -NH-SO<sub>2</sub>-R<sup>10</sup> wherein R<sup>10</sup> represents C<sub>1-6</sub>alkyl, mono- or poly haloC<sub>1-6</sub>alkyl, arylC<sub>1-6</sub>alkyl or aryl;  
R<sup>3</sup> and R<sup>4</sup> each independently represent hydrogen; C<sub>1-6</sub>alkyl; C<sub>1-6</sub>alkyloxyC<sub>1-6</sub>alkyl; C<sub>1-6</sub>alkyloxycarbonyl; or  
R<sup>2</sup> and R<sup>3</sup> may be taken together to form -R<sup>2</sup>-R<sup>3</sup>-, which represents a bivalent radical of formula -(CH<sub>2</sub>)<sub>4</sub>-, -(CH<sub>2</sub>)<sub>5</sub>-, -Z<sub>4</sub>-CH=CH-, -Z<sub>4</sub>-CH<sub>2</sub>-CH<sub>2</sub>-CH<sub>2</sub>- or -Z<sub>4</sub>-CH<sub>2</sub>-CH<sub>2</sub>-, with Z<sub>4</sub> being O, S, SO<sub>2</sub> or NR<sup>11</sup> wherein R<sup>11</sup> is hydrogen, C<sub>1-6</sub>alkyl, benzyl or

C<sub>1-6</sub>alkyloxycarbonyl; and wherein each bivalent radical is optionally substituted with C<sub>1-6</sub>alkyl;  
or R<sup>3</sup> and R<sup>4</sup> may be taken together to form a bivalent radical of formula -CH=CH-CH=CH- or -CH<sub>2</sub>-CH<sub>2</sub>-CH<sub>2</sub>-CH<sub>2</sub>- ;  
R<sup>5</sup> represents hydrogen; piperidinyl; oxo-thienyl; tetrahydrothienyl, arylC<sub>1-6</sub>alkyl; C<sub>1-6</sub>alkyloxycarbonylC<sub>1-6</sub>alkyl or C<sub>1-6</sub>alkyl optionally substituted with a radical C(=O)NR<sub>x</sub>R<sub>y</sub>, in which R<sub>x</sub> and R<sub>y</sub>, each independently are hydrogen, cycloC<sub>3-12</sub>alkyl, C<sub>2-6</sub>alkynyl or C<sub>1-6</sub>alkyl optionally substituted with cyano, C<sub>1-6</sub>alkyloxy or C<sub>1-6</sub>alkyloxycarbonyl;  
Y represents O or S;  
or Y and R<sup>5</sup> may be taken together to form =Y-R<sup>5</sup>- which represents a radical of formula  
-CH=N-N= (c-1); or  
-N=N-N= (c-2);  
aryl represents phenyl or naphthyl optionally substituted with one or more substituents selected from halo, C<sub>1-6</sub>alkyloxy, phenyloxy, mono-or di(C<sub>1-6</sub>alkyl)amino and cyano;  
and when the R<sup>1</sup>-C(=X) moiety is linked to another position than the 7 or 8 position, then said 7 and 8 position may be substituted with R<sup>15</sup> and R<sup>16</sup> wherein either one or both of R<sup>15</sup> and R<sup>16</sup> represents C<sub>1-6</sub>alkyl or R<sup>15</sup> and R<sup>16</sup> taken together may form a bivalent radical of formula -CH=CH-CH=CH-.

3. (Currently Amended) [[A]] The radiolabelled compound according to claim 1, wherein,  
X represents O;  
R<sup>1</sup> represents C<sub>1-6</sub>alkyl; cycloC<sub>3-12</sub>alkyl or (cycloC<sub>3-12</sub>alkyl)C<sub>1-6</sub>alkyl, wherein one or more hydrogen atoms in a C<sub>1-6</sub>alkyl-moiety or in a cycloC<sub>3-12</sub>alkyl-moiety optionally may be replaced by C<sub>1-6</sub>alkyloxy, aryl, halo or thienyl;  
R<sup>2</sup> represents hydrogen; halo; C<sub>1-6</sub>alkyl or amino;  
R<sup>3</sup> and R<sup>4</sup> each independently represent hydrogen or C<sub>1-6</sub>alkyl; or  
R<sup>2</sup> and R<sup>3</sup> may be taken together to form -R<sup>2</sup>-R<sup>3</sup>-, which represents a bivalent radical of formula -Z<sub>4</sub>-CH<sub>2</sub>-CH<sub>2</sub>-CH<sub>2</sub>- or -Z<sub>4</sub>-CH<sub>2</sub>-CH<sub>2</sub>- with Z<sub>4</sub> being O or NR<sup>11</sup> wherein R<sup>11</sup> is C<sub>1-6</sub>alkyl; and wherein each bivalent radical is optionally substituted with C<sub>1-6</sub>alkyl;  
or R<sup>3</sup> and R<sup>4</sup> may be taken together to form a bivalent radical of formula -CH<sub>2</sub>-CH<sub>2</sub>-CH<sub>2</sub>-CH<sub>2</sub>- ;  
R<sup>5</sup> represents hydrogen;  
Y represents O; and

aryl represents phenyl optionally substituted with halo.

4. (Currently Amended) [[A]] The radiolabelled compound according to claim 1, wherein, the  $R^1-C(=X)$  moiety is linked to the quinoline or quinolinone moiety in position 6.
5. (Canceled)
6. (Currently Amended) [[A]] The radiolabelled compound according to claim [[5]] 1, wherein the radioactive isotope is ~~selected from the group of~~ of  $^3H$ ,  $^{11}C$  and or  $^{18}F$ .
7. (Currently Amended) [[A]] The radiolabelled compound according to claim 6, wherein the compound is any one of compounds (a), (b), (c), (d) and (e) :

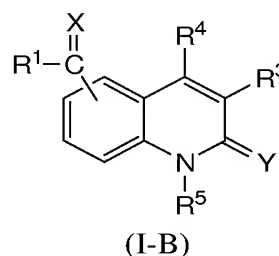
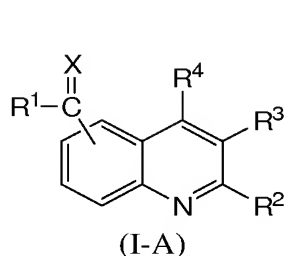


8. (Currently Amended) ~~[[A]]~~ The radiolabelled compound according to claim ~~[[6]]~~ 7, wherein, the compound is compound (a).
9. (Currently Amended) ~~[[A]]~~ ~~Radioactive~~ radioactive composition for the administration to ~~mamals~~ mammals comprising a therapeutically effective amount of a radiolabelled compound according to claim 1 and a pharmaceutically acceptable carrier or diluent.
10. (Canceled)
11. (Currently Amended) A diagnostic method for an detecting the presence of a mGlu1 receptor comprising administering a ~~A~~ radiolabelled compound according to claim 1 ~~wherein the diagnostic method consists of marking or identifying a mGlu1 receptor in to biological material; and~~ detecting emissions from the radiolabelled compound.
12. (Canceled)
13. (Currently Amended) The method of claim 11 further comprising ~~A radiolabelled compound according to claim 1, wherein the diagnostic method consists of screening whether a test compound has the~~ for the ability to occupy or bind to a mGlu1 receptor in the biological material.
14. (Currently Amended) The method of claim 11 wherein ~~A radiolabelled compound or composition according to claim 1, wherein the biological material is selected from the group of~~ a tissue sample, plasma fluid, body fluid, body part from a warm-blooded animal, and or organ originating from a warm-blooded animal~~[[s]] and warm-blooded animals per se, in particular humans.~~
15. (Currently Amended) ~~A radiolabelled compound according to claim 1 for the manufacture of a~~ A diagnostic tool for marking or identifying an mGlu1 receptor in biological material, said tool comprising a radiolabelled compound according to claim 1.
16. (Canceled)



17. (Currently Amended) ~~A radiolabelled compound according to claim 1 for the manufacture of a~~ A diagnostic tool for screening whether a test compound has the ability to occupy or bind to a mGlu1 receptor in biological material, said diagnostic tool comprising a radiolabelled compound according to claim 1.
18. (New) A method for imaging an organ comprising the steps of
- (a) administering a sufficient amount of a compound according to claim 1 to the organ; and
  - (b) detecting the emissions from the radioactive compound.
19. (New) The method of claim 18 wherein the compound is administered *in vivo*.
20. (New) The method of claim 18 wherein the compound is administered *in vitro*.
21. (New) The method of claim 18 wherein the emissions are detected using Single Photon Emission Computed Tomography or Positron Emission Tomography.
22. (New) The method of claim 18 wherein the organ is a brain.
23. (New) A method for marking an mGlu1 receptor comprising the steps of
- (a) administering a compound according to claim 1 to biological material; and
  - (b) detecting the emissions from the radioactive compound.
24. (New) The method of claim 23 wherein the compound is administered *in vivo*.
25. (New) The method of claim 23 wherein the compound is administered *in vitro*.
26. (New) The method of claim 23 wherein the emissions are detected using Single Photon Emission Computed Tomography or Positron Emission Tomography.
27. (New) The method of claim 23 wherein the biological material is a tissue sample, plasma fluid, body fluid, body part from a warm-blooded animal, or organ from a warm-blooded animal.
28. (New) A method of screening whether a test compound occupies or binds to an mGlu1 receptor in biological material comprising:
- (a) administering a compound according to claim 1 to biological material;
  - (b) administering the test compound to the biological material; and

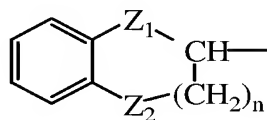
- (c) detecting the emissions from the radioactive compound.
29. (New) The method of claim 28 wherein the emissions are detected using Single Photon Emission Computed Tomography or Positron Emission Tomography.
30. (New) The method of claim 28 wherein the biological material is a tissue sample, plasma fluid, body fluid, body part from a warm-blooded animal, or organ from a warm-blooded animal.
31. (New) A method for marking an mGlu1 receptor comprising the steps of  
(a) radiolabelling a compound according to Formula (I-A) or (I-B)



an *N*-oxide form, a pharmaceutically acceptable addition salt, a quaternary amine or a stereochemically isomeric form thereof, wherein

X represents O; C(R<sup>6</sup>)<sub>2</sub> with R<sup>6</sup> being hydrogen, aryl or C<sub>1-6</sub>alkyl optionally substituted with amino or mono- or di(C<sub>1-6</sub>alkyl)amino; S or N-R<sup>7</sup> with R<sup>7</sup> being amino or hydroxy;

R<sup>1</sup> represents C<sub>1-6</sub>alkyl; aryl; thienyl; quinoliny; cycloC<sub>3-12</sub>alkyl or (cycloC<sub>3-12</sub>alkyl)C<sub>1-6</sub>alkyl, wherein the cycloC<sub>3-12</sub>alkyl moiety optionally may contain a double bond and wherein one carbon atom in the cycloC<sub>3-12</sub>alkyl moiety may be replaced by an oxygen atom or an NR<sup>8</sup>-moiety with R<sup>8</sup> being hydrogen, benzyl or C<sub>1-6</sub>alkyloxycarbonyl; wherein one or more hydrogen atoms in a C<sub>1-6</sub>alkyl-moiety or in a cycloC<sub>3-12</sub>alkyl-moiety optionally may be replaced by C<sub>1-6</sub>alkyl, hydroxyC<sub>1-6</sub>alkyl, haloC<sub>1-6</sub>alkyl, aminoC<sub>1-6</sub>alkyl, hydroxy, C<sub>1-6</sub>alkyloxy, arylC<sub>1-6</sub>alkyloxy, halo, C<sub>1-6</sub>alkyloxycarbonyl, aryl, amino, mono- or di(C<sub>1-6</sub>alkyl)amino, C<sub>1-6</sub>alkyloxycarbonylamino, halo, piperazinyl, pyridinyl, morpholinyl, thienyl or a bivalent radical of formula -O-, -O-CH<sub>2</sub>-O or -O-CH<sub>2</sub>-CH<sub>2</sub>-O-; or a radical of formula (a-1)



a-1

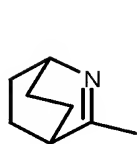
wherein  $Z_1$  is a single covalent bond, O, NH or  $CH_2$ ;

$Z_2$  is a single covalent bond, O, NH or  $CH_2$ ;

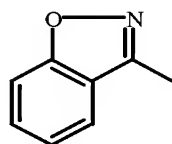
$n$  is an integer of 0, 1, 2 or 3;

and wherein each hydrogen atom in the phenyl ring independently may optionally be replaced by halo, hydroxy,  $C_{1-6}$ alkyl,  $C_{1-6}$ alkyloxy or hydroxy $C_{1-6}$ alkyl;

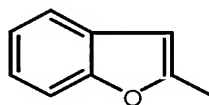
or X and  $R^1$  may be taken together with the carbon atom to which X and  $R^1$  are attached to form a radical of formula (b-1), (b-2) or (b-3);



b-1



b-2



b-3

$R^2$  represents hydrogen; halo; cyano;  $C_{1-6}$ alkyl;  $C_{1-6}$ alkyloxy;  $C_{1-6}$ alkylthio;  $C_{1-6}$ alkylcarbonyl;  $C_{1-6}$ alkyloxycarbonyl;  $C_{1-6}$ alkylcarbonyloxy $C_{1-6}$ alkyl;  $C_{2-6}$ alkenyl; hydroxy $C_{2-6}$ alkenyl;  $C_{2-6}$ alkynyl; hydroxy $C_{2-6}$ alkynyl; tri( $C_{1-6}$ alkyl)silane $C_{2-6}$ alkynyl; amino; mono- or di( $C_{1-6}$ alkyl)amino; mono- or di( $C_{1-6}$ alkyloxy $C_{1-6}$ alkyl)amino; mono- or di( $C_{1-6}$ alkylthio $C_{1-6}$ alkyl)amino; aryl; aryl $C_{1-6}$ alkyl; aryl $C_{2-6}$ alkynyl;  $C_{1-6}$ alkyloxy $C_{1-6}$ alkylamino $C_{1-6}$ alkyl; aminocarbonyl optionally substituted with  $C_{1-6}$ alkyl,  $C_{1-6}$ alkyloxy $C_{1-6}$ alkyl,  $C_{1-6}$ alkyloxycarbonyl $C_{1-6}$ alkyl or pyridinyl $C_{1-6}$ alkyl; a heterocycle selected from thienyl, furanyl, pyrrolyl, thiazolyl, oxazolyl, imidazolyl, isothiazolyl, isoxazolyl, pyrazolyl, pyridyl, pyrazinyl, pyridazinyl, pyrimidinyl, piperidinyl and piperazinyl, optionally N-substituted with  $C_{1-6}$ alkyloxy $C_{1-6}$ alkyl, morpholinyl, thiomorpholinyl, dioxanyl or dithianyl; a radical  $-NH-C(=O)R^9$  wherein  $R^9$  represents

C<sub>1-6</sub>alkyl optionally substituted with cycloC<sub>3-12</sub>alkyl, C<sub>1-6</sub>alkyloxy, C<sub>1-6</sub>alkyloxycarbonyl, aryl, aryloxy, thienyl, pyridinyl, mono- or di(C<sub>1-6</sub>alkyl)amino, C<sub>1-6</sub>alkylthio, benzylthio, pyridinylthio or pyrimidinylthio; cycloC<sub>3-12</sub>alkyl; cyclohexenyl; amino; arylcycloC<sub>3-12</sub>alkylamino; mono-or-di(C<sub>1-6</sub>alkyl)amino; mono- or di(C<sub>1-6</sub>alkyloxycarbonylC<sub>1-6</sub>alkyl)amino; mono- or di(C<sub>1-6</sub>alkyloxycarbonyl)amino; mono-or di(C<sub>2-6</sub>alkenyl)amino; mono- or di(arylC<sub>1-6</sub>alkyl)amino; mono- or diarylamino; arylC<sub>2-6</sub>alkenyl; furanylC<sub>2-6</sub>alkenyl; piperididiny; piperazinyl; indolyl; furyl; benzofuryl; tetrahydrofuryl; indenyl; adamantyl; pyridinyl; pyrazinyl; aryl; arylC<sub>1-6</sub>alkylthio or a radical of formula (a-1) ;

a sulfonamid -NH-SO<sub>2</sub>-R<sup>10</sup> wherein R<sup>10</sup> represents C<sub>1-6</sub>alkyl, mono- or poly haloC<sub>1-6</sub>alkyl, arylC<sub>1-6</sub>alkyl, arylC<sub>2-6</sub>alkenyl, aryl, quinoliny, isoxazolyl or di(C<sub>1-6</sub>alkyl)amino;

R<sup>3</sup> and R<sup>4</sup> each independently represent hydrogen; halo; hydroxy; cyano; C<sub>1-6</sub>alkyl; C<sub>1-6</sub>alkyloxy; C<sub>1-6</sub>alkyloxyC<sub>1-6</sub>alkyl; C<sub>1-6</sub>alkylcarbonyl; C<sub>1-6</sub>alkyloxycarbonyl; C<sub>2-6</sub>alkenyl; hydroxyC<sub>2-6</sub>alkenyl; C<sub>2-6</sub>alkynyl; hydroxyC<sub>2-6</sub>alkynyl; tri(C<sub>1-6</sub>alkyl)silaneC<sub>2-6</sub>alkynyl; amino; mono- or di(C<sub>1-6</sub>alkyl)amino; mono- or di(C<sub>1-6</sub>alkyloxyC<sub>1-6</sub>alkyl)amino; mono- or di(C<sub>1-6</sub>alkylthioC<sub>1-6</sub>alkyl)amino; aryl; morpholinylC<sub>1-6</sub>alkyl or piperidinylC<sub>1-6</sub>alkyl ; or

R<sup>2</sup> and R<sup>3</sup> may be taken together to form -R<sup>2</sup>-R<sup>3</sup>-, which represents a bivalent radical of formula -(CH<sub>2</sub>)<sub>3</sub>-, -(CH<sub>2</sub>)<sub>4</sub>-, -(CH<sub>2</sub>)<sub>5</sub>-, -(CH<sub>2</sub>)<sub>6</sub>-, -CH=CH-CH=CH-, -Z<sub>4</sub>-CH=CH-, -CH=CH-Z<sub>4</sub>-, -Z<sub>4</sub>-CH<sub>2</sub>-CH<sub>2</sub>-CH<sub>2</sub>-, -CH<sub>2</sub>-Z<sub>4</sub>-CH<sub>2</sub>-CH<sub>2</sub>-, -CH<sub>2</sub>-CH<sub>2</sub>-Z<sub>4</sub>-CH<sub>2</sub>-, -CH<sub>2</sub>-CH<sub>2</sub>-CH<sub>2</sub>-Z<sub>4</sub>-, -Z<sub>4</sub>-CH<sub>2</sub>-CH<sub>2</sub>-, -CH<sub>2</sub>-Z<sub>4</sub>-CH<sub>2</sub>- or -CH<sub>2</sub>-CH<sub>2</sub>-Z<sub>4</sub>-, with Z<sub>4</sub> being O, S, SO<sub>2</sub> or NR<sup>11</sup> wherein R<sup>11</sup> is hydrogen, C<sub>1-6</sub>alkyl, benzyl or C<sub>1-6</sub>alkyloxycarbonyl; and wherein each bivalent radical is optionally substituted with C<sub>1-6</sub>alkyl.

or R<sup>3</sup> and R<sup>4</sup> may be taken together to form a bivalent radical of formula -CH=CH-CH=CH- or -CH<sub>2</sub>-CH<sub>2</sub>-CH<sub>2</sub>-CH<sub>2</sub>- ;

R<sup>5</sup> represents hydrogen; cycloC<sub>3-12</sub>alkyl; piperidinyl; oxo-thienyl; tetrahydrothienyl, arylC<sub>1-6</sub>alkyl; C<sub>1-6</sub>alkyloxyC<sub>1-6</sub>alkyl; C<sub>1-6</sub>alkyloxycarbonylC<sub>1-6</sub>alkyl or C<sub>1-6</sub>alkyl optionally substituted with a radical C(=O)NR<sub>x</sub>R<sub>y</sub>, in which R<sub>x</sub> and R<sub>y</sub>, each independently are hydrogen, cycloC<sub>3-12</sub>alkyl, C<sub>2-6</sub>alkynyl or C<sub>1-6</sub>alkyl optionally

substituted with cyano, C<sub>1-6</sub>alkyloxy, C<sub>1-6</sub>alkyloxycarbonyl, furanyl, pyrrolidinyl, benzylthio, pyridinyl, pyrrolyl or thienyl;

Y represents O or S;

or Y and R<sup>5</sup> may be taken together to form =Y-R<sup>5</sup>- which represents a radical of formula

-CH=N-N= (c-1);

-N=N-N= (c-2); or

-N-CH=CH- (c-3);

aryl represents phenyl or naphthyl optionally substituted with one or more substituents

selected from halo, hydroxy, C<sub>1-6</sub>alkyl, C<sub>1-6</sub>alkyloxy, phenyloxy, nitro, amino, thio, C<sub>1-6</sub>alkylthio, haloC<sub>1-6</sub>alkyl, polyhaloC<sub>1-6</sub>alkyl, polyhaloC<sub>1-6</sub>alkyloxy, hydroxyC<sub>1-6</sub>alkyl, C<sub>1-6</sub>alkyloxyC<sub>1-6</sub>alkyl, aminoC<sub>1-6</sub>alkyl, mono-or di(C<sub>1-6</sub>alkyl)amino; mono-or di(C<sub>1-6</sub>alkyl)aminoC<sub>1-6</sub>alkyl, cyano, -CO-R<sup>12</sup>, -CO-OR<sup>13</sup>, -NR<sup>13</sup>SO<sub>2</sub>R<sup>12</sup>, -SO<sub>2</sub>-NR<sup>13</sup>R<sup>14</sup>, -NR<sup>13</sup>C(O)R<sup>12</sup>, -C(O)NR<sup>13</sup>R<sup>14</sup>, -SOR<sup>12</sup>, -SO<sub>2</sub>R<sup>12</sup>; wherein each R<sup>12</sup>, R<sup>13</sup> and R<sup>14</sup> independently represent C<sub>1-6</sub>alkyl; cycloC<sub>3-6</sub>alkyl; phenyl; phenyl substituted with halo, hydroxy, C<sub>1-6</sub>alkyl, C<sub>1-6</sub>alkyloxy, haloC<sub>1-6</sub>alkyl, polyhaloC<sub>1-6</sub>alkyl, furanyl, thienyl, pyrrolyl, imidazolyl, thiazolyl or oxazolyl;

and when the R<sup>1</sup>-C(=X) moiety is linked to another position than the 7 or 8 position, then said 7 and 8 position may be substituted with R<sup>15</sup> and R<sup>16</sup> wherein either one or both of R<sup>15</sup> and R<sup>16</sup> represents C<sub>1-6</sub>alkyl, C<sub>1-6</sub>alkyloxy or R<sup>15</sup> and R<sup>16</sup> taken together may form a bivalent radical of formula -CH=CH-CH=CH-;

(b) administering the radiolabelled compound to biological material; and

(c) detecting the emissions from the radiolabelled compound.

32. (New) The method of claim 31 wherein the compound is administered to said biological material *in vivo*.

33. (New) The method of claim 31 wherein the compound is administered to said biological material *in vitro*.

34. (New) The method of claim 31 wherein the emissions are detected using Single Photon Emission Computerized Tomography or Positron Emission Tomography.

35. (New) The method of claim 31 wherein the biological material is a tissue sample, plasma fluid, body fluid, body part from a warm-blooded animal, or organ from a warm-blooded animal.